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Return to Oz 4

It all started eighty-five years ago when L. Frank Baum first captured the hearts and imaginations of children with *The Wonderful Wizard of Oz*. The book's literary success spawned dozens of stage and screen excursions to the Land of Oz, marked most notably by M-G-M's immortal classic. Repudiating the popular conception of singing and dancing munchkins and vaudevillian backdrops, Walt Disney Productions and director Walter Murch have reexplored Baum's familiar and beloved fantasy world in a dedicated new adaptation — *Return to Oz*. Producers Gary Kurtz and Paul Maslansky, opticals expert Zoran Perisic, creature designer Lyle Conway and Claymation innovator Will Vinton — together with other members of the Oz team — discuss in detail the special brand of wizardry involved in bringing Dorothy Gale's time-honored adventures once again to life. *Article by Brad Munson.*

Bringing Up Baby 42

In the animal-adventure genre there is nothing new under the sun — or is there? For Touchstone Films, the novel twist of casting a most unusual fauna in the title role of *Baby* was inspiration for the telling of an old tale in a decidedly new way. The Isidoro Raponi-designed infant brontosaurus star was born cinematically in the rain forests of Africa's Ivory Coast following an arduous three-year gestation period. For director B.W.L. Norton and producer Jonathan Taplin, the trials and tribulations of bringing the \$14 million production to life involved an exhausting — often harrowing — labor. And the challenge of creating high-tech special effects in a low-tech Third World country furnished all involved with more than their share of real-life thrills and chills. *Article by Howard E. Green.*

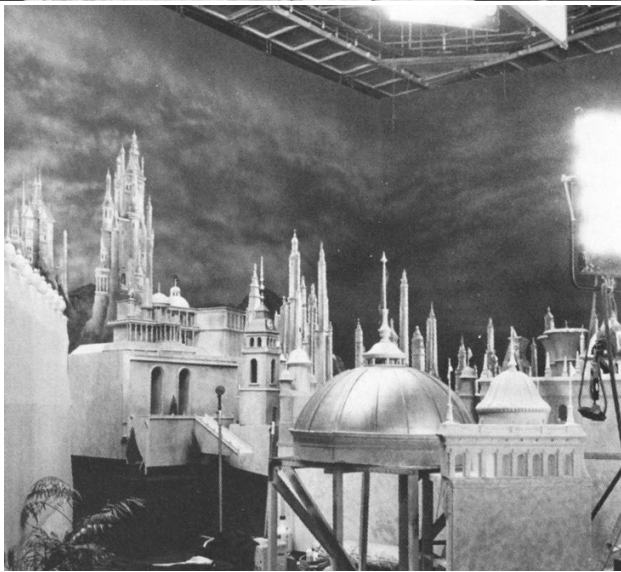
FRONT COVER — The nefarious Nome King from *Return to Oz*.
A brontosaurus and her hatchling swim off into the sunset in *Baby* — BACK COVER.

Return To OZ









Toto remains behind in Kansas, replaced during Dorothy's return to Oz by a talking chicken named Billina. Creating a convincing mechanical chicken proved to be one of the more challenging assignments for the film's animatronics staff. / One of the early proposals was to produce a larger-than-life bird and photograph it with oversized settings and props — an idea which was ultimately discarded as impractical. In the end, Conway and crew were able to cram the necessary articulating mechanisms into an actual-size chicken figure. / Billina's lifelike coat was produced by Val Jones, employing a hand-woven elastic fabric laced with loops of wool to which real chicken feathers were painstakingly glued. / Stephen Norrington — at

Nomes went through a lot of different phases," Vinton recalled, "beginning with a sort of cherub-like creature, very close to the original Baum illustrations — almost egg-shaped characters with very long beards. Though Walter wanted to stick very closely to the original illustrations with most of the imagery, the Nomes were the antagonists of the story, and he wanted them to be something a little bit less fairy-like — more threatening, I think. A little wilder. And this whole notion of bringing rock to life is almost a contradiction in terms. One of the first things we dealt with all along was, 'What is the nature of rockiness?' — and one of the primary answers was that rock doesn't move. Yet the whole thing was to *get* that rock to move. The idea was that Nomes were in this kind of plasma of rock, a sea of rock."

Efforts to develop the characterizations for these incredible creatures began in August 1982, with Walter Murch and Will Vinton in close cooperation. Working through five drafts of the script — and dealing particularly in the area of conceptualization — Murch, Vinton and production chief character designer, Barry Bruce, eventually came up with a set of drawings and sculptures based on Nicol Williamson, the actor engaged to portray the wicked king. The team developed the 'rock extensions' of Williamson into a final look for the king and his subjects. Will Vinton also traveled from his studio in Portland, Oregon, to the soundstages in London to participate in principal photography; and based on the plates that were created there, he and his crew began to render the scenes and backgrounds that would eventually be part of the illusion of Claymation.

Many of Vinton's animators, machinists, editors, electronics personnel and other support staff members were just completing principal photography on a complex and challenging full-length Claymation feature, *The Adventures of Mark Twain*. "Twain was just going into postproduction," Vinton said. "It had a mixture of effects like those used in regular live-action films — seventy-some composite shots, two hundred or so front screen projection shots, upwards of fifty relatively complex optical composite shots using frontlight/backlight generated mattes, and more." And the lessons learned on *Twain*, concerning the integration of effects in stop-motion animation, became immediately applicable to *Oz*.

One of those lessons involved the importance of complete reference film. To capture the realistic movements and subtlety of gesture, *Twain* had actually been shot and edited as a live-action film before Claymation ever began. The same reliance on live-action footage derived from principal photography would hold true on *Oz*. "Normally," said Vinton, "we work from a reference film of actors going through lines — not in the sense of rotoscoping, but going for the little nuances of expression, the mannerisms that an actor puts into a performance. And I

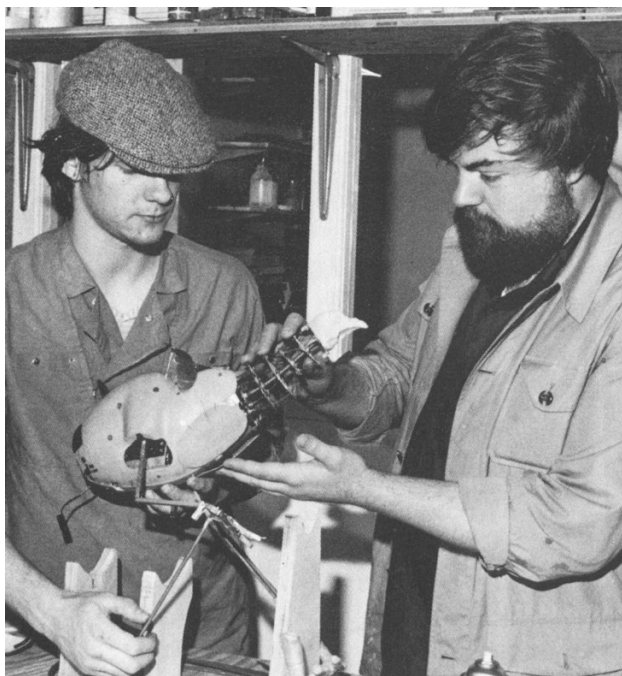


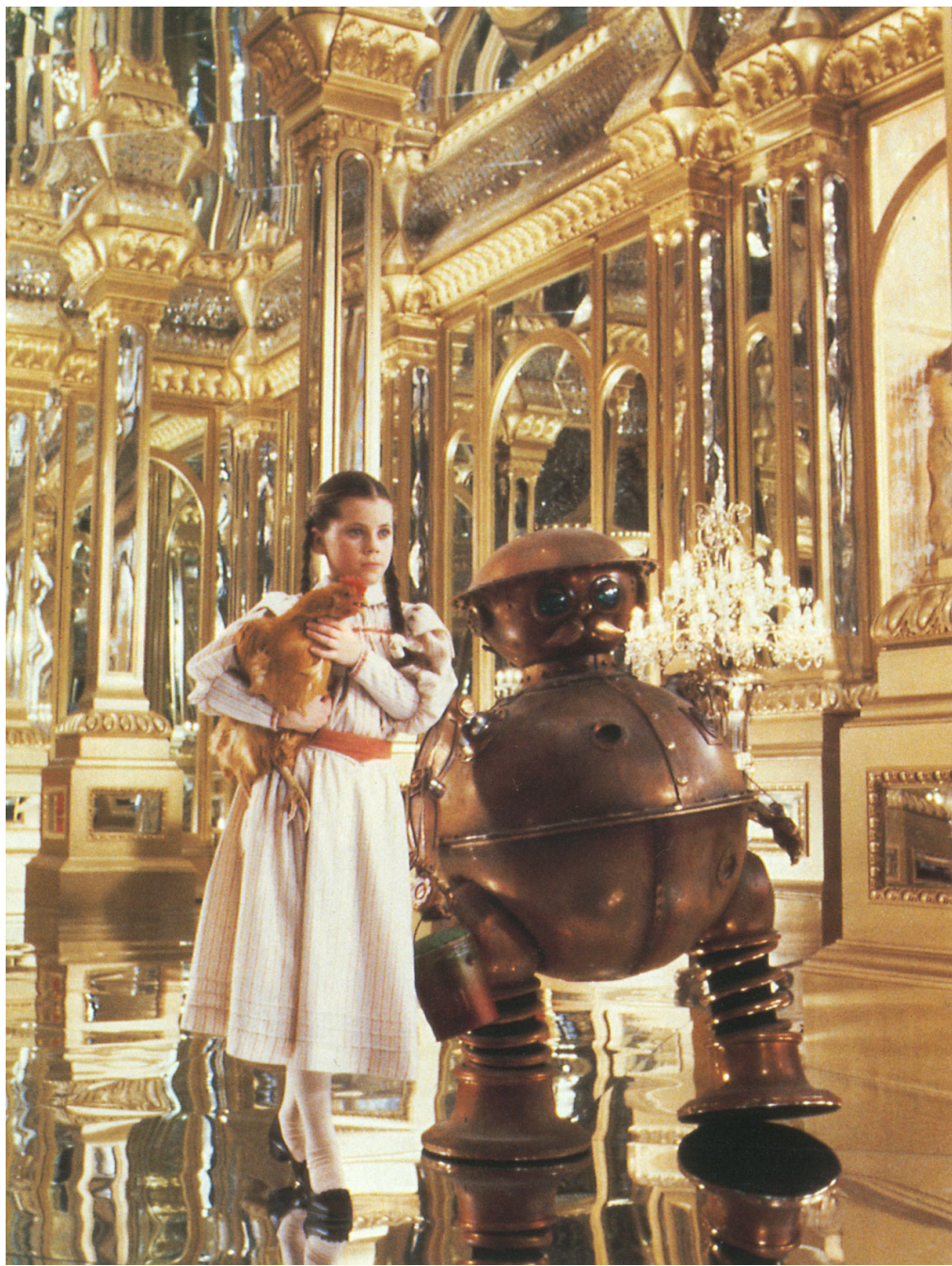


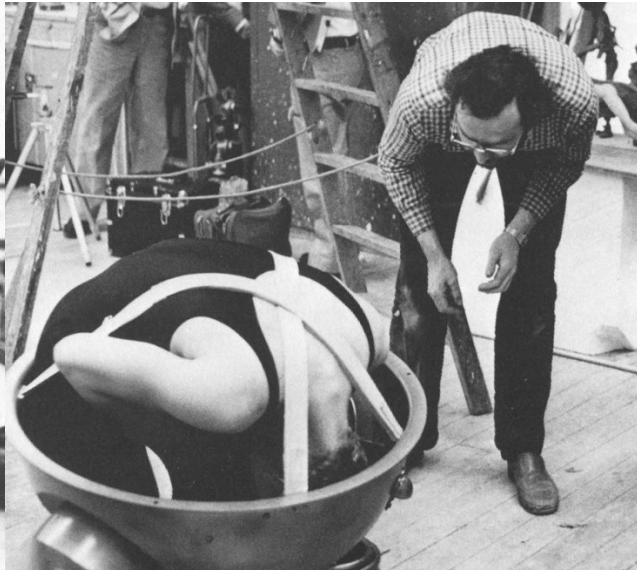
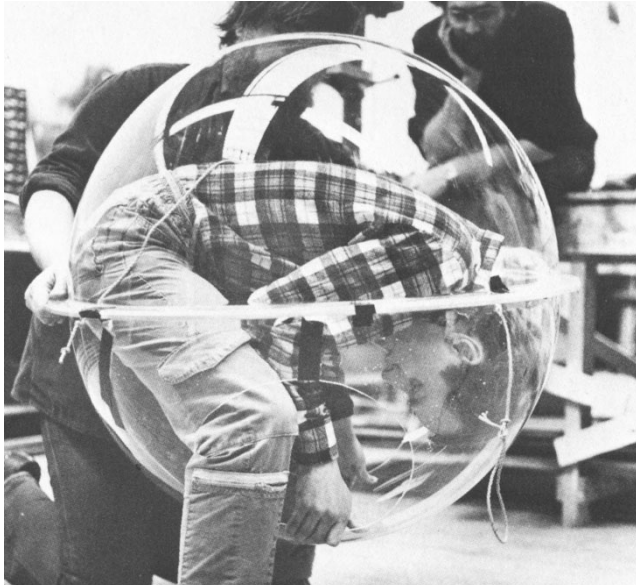












anything! I'm embarrassed by that."

And then there is the particularly uncomfortable matter of the Tin Man — a character whose design is based very closely on John Neill's original drawings of the strange creature with spindly legs, a pail for a head, and a funnel for a hat — making it virtually impossible to be constructed in such a way that a normal-size actor could be placed inside. The original idea had been to employ the use of opticals and a marionette-style puppet, but this approach proved too complicated and expensive. So the crew was left with trying to concoct a Tin Man that would carry a small person in its relatively little belly, and still be able to walk and perform at least some basic movements.

It was not a major success. The small person — movie veteran Deep Roy — operated the head from a rod inside the torso, turning it left or right as necessary. Minimal facial features were handled by radio-controlled servos that operated the eyes, eyebrows and mouth. The performer also managed to manipulate one arm from inside, but there was little room for anything else — in fact, there was so little room that the operator's legs actually hung down, out of the body and in plain view. To combat this minor difficulty, diversionary tactics were employed; and in the few shots where the Tin Man ultimately appears, he is constantly blocked by another character in the foreground, so the dangling legs of the actor cannot be seen.

While the creative staff may have suffered their share of disappointment over the less-than-successful Tin Man, Scarecrow and Cowardly Lion, the invention of Dorothy's current sidekicks would prove to be infinitely more satisfying — with the help of an ample budget for the animatronics workshop. Oddly enough, the creature that posed the greatest challenge for the crew wasn't a fanciful creation at all. It was just an ordinary Plymouth Rock hen named Billina — who could talk. Billina's commonness was, in fact, the very essence of the quandary. Creating a believable chicken of actual size that could blink, move, walk and *talk* convincingly was no easy task. "People know what a chicken looks like," lamented Lyle Conway.

Coming up with a workable concept was the first step in the arduous process of hatching the Billina character. "Originally," Conway said, "the notion was to build oversized sets for a larger-than-life version, then drop that into the picture somehow. I had this image of a massive rubber chicken — a Rodan sort of thing." That idea quickly passed in favor of a series of actual-size mechanical birds that could be manipulated by an operator's hand inside the body and further articulated with radio control and cables. "There are several versions," explained

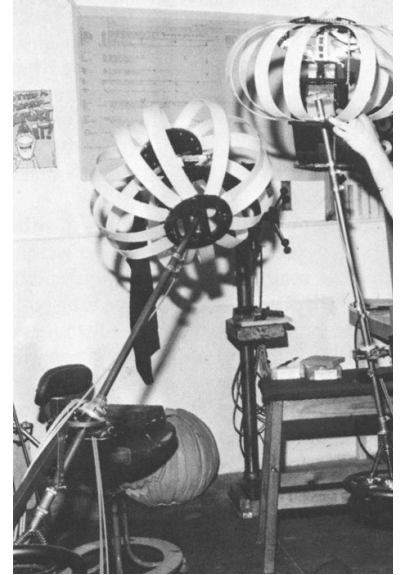
Billina peers out from the eye of Jack Pumpkinhead — another Oz inhabitant who joins Dorothy on her journey. / Chris Ostwald, who was in charge of the character's construction, examines the 'squash and stretch' mechanism whereby Jack's facial articulations were made possible. / Jack is momentarily separated from his pumpkin head when the Gump falls apart in midair and deposits Dorothy and her friends near the top of the Nome King's mountain. When the head catches up with Jack, it lands upside down on his neck. / On stage, a cable attached to a cherry picker



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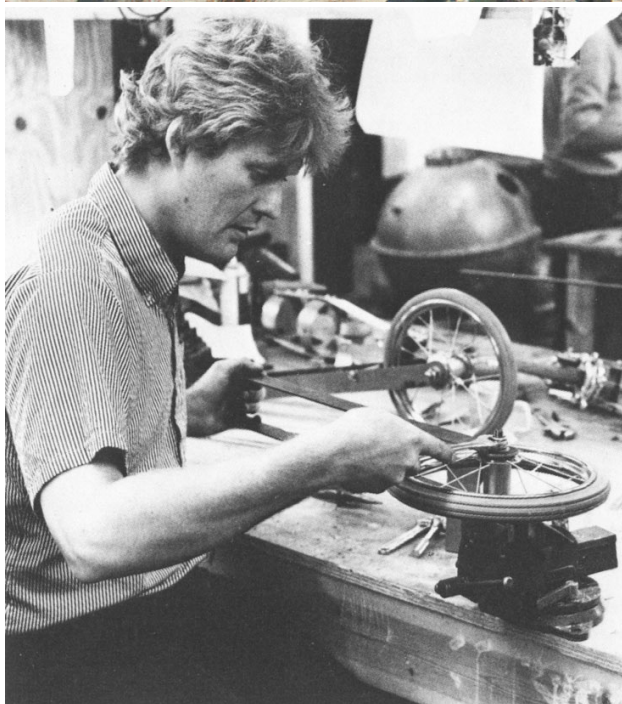






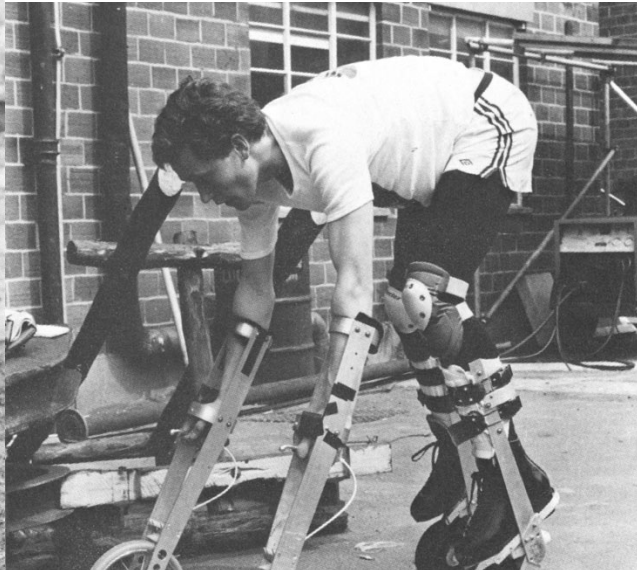












were called, dressed in various states of disrepair for the sequences where the mechanical man fights for Dorothy along their perilous journey; and one 'Bright 'n' Shiny,' used only in the coronation scene near the end of the film. "They're not complete Tik Toks," Rose said. "To do all the special effects, we've had to use bits and pieces — take 'em apart and put 'em back together. Cannibalize them."

The performer who climbed inside the spherical torso to do the operating was Michael Sundin, an acrobat and a former member of the stage show *Cats*. The task required both stamina and courage. "Michael's about five five," Conway commented, "and Tik Tok's about four foot. So Michael had to bend with his head between his legs, bolted in, and he did the actual walking-around in the thing — backwards. Sometimes, in the morning, he wouldn't be able to fit; so it was just a matter of forcing him in. Then everything loosened up, and his body settled into it. When you took the suit off of him, this rush of hot air hit you and there were pools of sweat at the bottom of the thing." At first Sundin was imprisoned within the mechanical man for no more than fifteen minutes, though by the end of shooting he had worked his way up to almost an hour.

Because cramped quarters allowed Sundin little room to operate Tik Tok, external assistance was required to mobilize the character's arms — a task best achieved by creating only the illusion of arm movement. "Since most of the scenes are done in short takes," explained Rose, "we could just change the arm's armature at the elbow and put it in a different position for each shot. Then, when the whole thing was edited together, it appeared as if he was doing a lot more than he actually was." Sundin was able to help out with the manipulation of the arm by lifting his shoulder from inside Tik Tok — a movement that caused the whole mechanism to be pulled down slightly. External radio control facilitated movement in other areas — the eye blinks, the mustache and the head position — via an eight-channel transmitter devised by Rose. "We took the standard radio control you'd use for model airplanes, but then we modified the transmitters so it was better for flying a creature than it was an airplane."

Ironically, the portions of the mechanical man that *looked* as if they should have helped him move were actually just window dressing — and annoying ones at that. The keys which supposedly power the 'patented mechanical man who does everything but live' were actually battery-powered, rigged with switches so that they could run down on cue, and the small chains that drape from shoulder to elbow to wrist were purely cosmetic.

Rear wheel on meta tennis shoes reinforced. Front wheel foot-long, elbow and brain inside. 1 Wheeler grotesque as the late Seventies practice become Wheeler early in the idea Mombi's sleigh. /



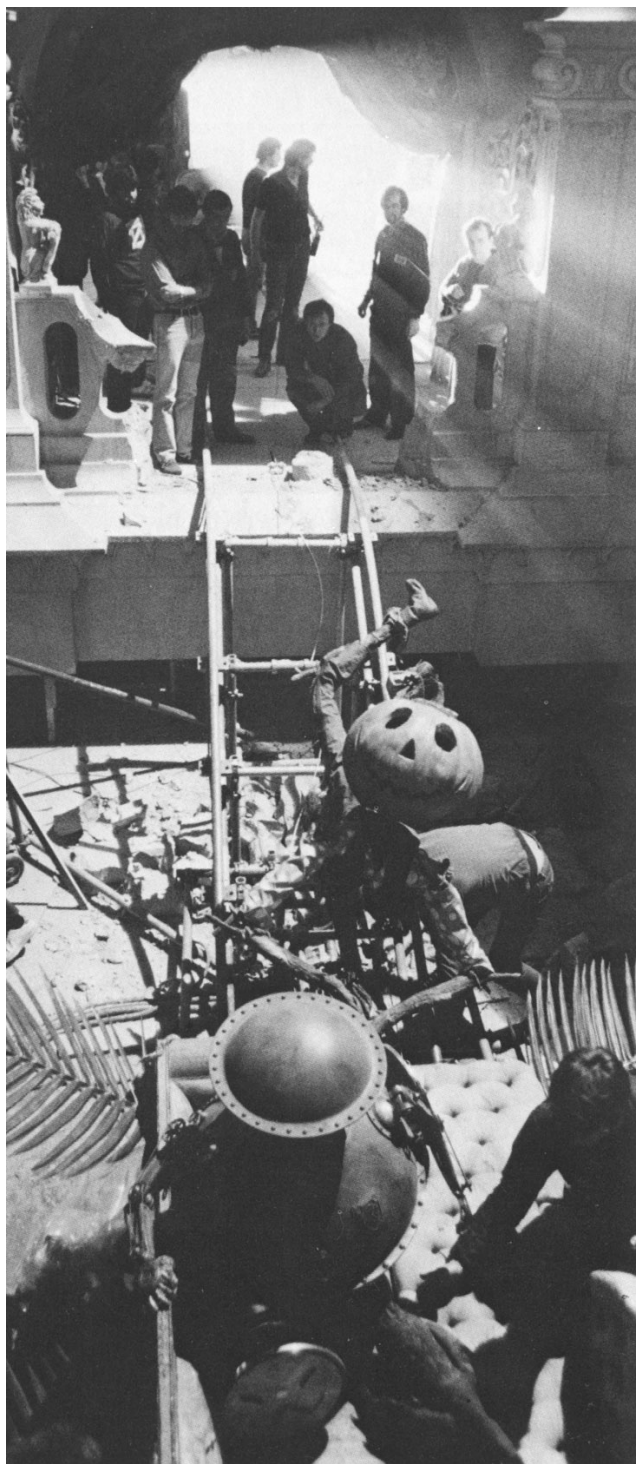
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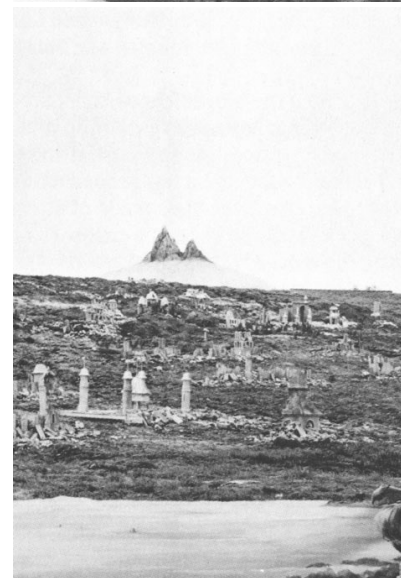
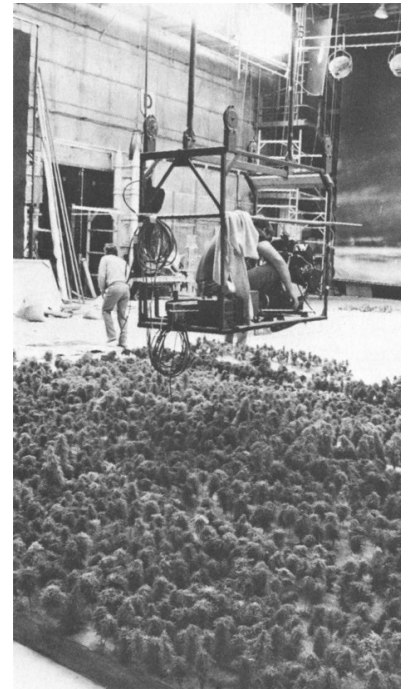
Background plates for the flying sequence were derived from a variety of sources. The forest surrounding the Emerald City, for example, was fashioned in miniature for certain shots, while others employed location photography. / A sprawling, forced-perspective miniature featuring the ruined Emerald City and the Nome King's mountainous lair. Artist Robert Spencer renders the foreground Deadly Desert in painting form. / Zoran Perisic, director of model and process photography, examines a VistaVision background plate employed during the Gump's passage over Oz. / With puppeteers huddled out of camera range, the Gump is readied for one of its flying shots. / Perisic's Zoptic system — a modified front projection system which creates the illusion of

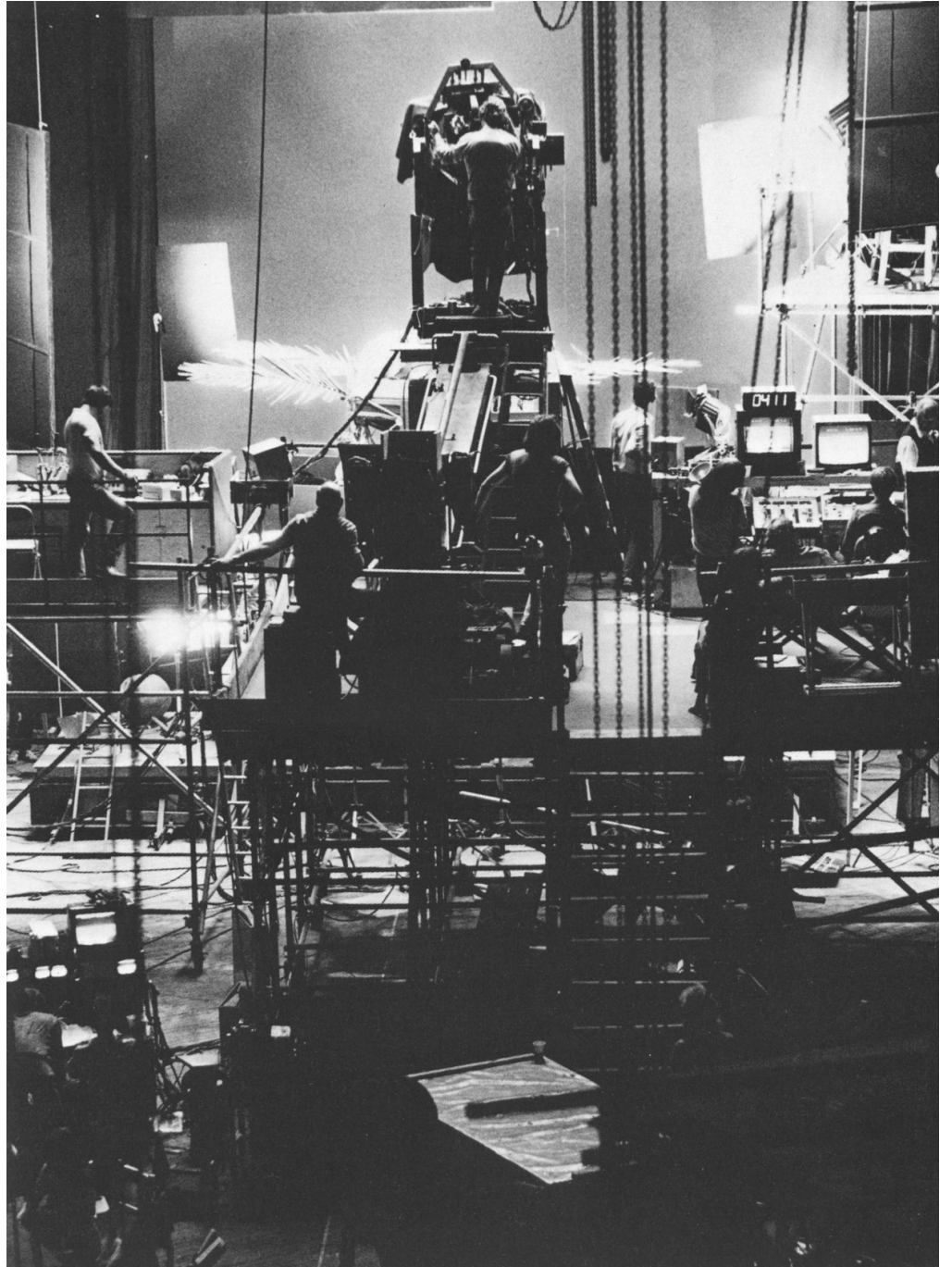
"In back was a metal platform the tennis shoe fit on," explained Maar — who, in addition to his other taskings was also cast as the lead Wheeler. "Coming up on either side of the platform were bars that were reinforced across the front, so you just slid your foot into the shoe, strapped it around just above the shin and below the knee, and you were in. And of course, we wore knee pads, because the only way we could let ourselves down — easily, that is — was by going down on our knees. The arm mechanism was similar. It had an elbow support and a handgrip inside, with a pull for a brake."

"The wheels were from Holland," continued Stephenson, "and apparently used in the manufacture of wheelchairs. We actually looked at lots of different sorts of wheels, and the simplicity of these was right. They also had solid hubs, so we were able to drill out and put bearings in either side, and then put on plastic hubcaps, so the trouser covered them and all you could see was a spinning thing. It wasn't obvious whether there were forks or brakes or anything. Stainless steel parts held the wheels in place with four bolts, so if anything went wrong, you could just slot in another unit. The trick of the whole thing was a special ratchet that allowed the wheel to spin one way, but not the other. That meant the performers could stand on the wheels without sliding backwards — which enabled them to push off sideways, much in the way an ice skater pushes a skate."

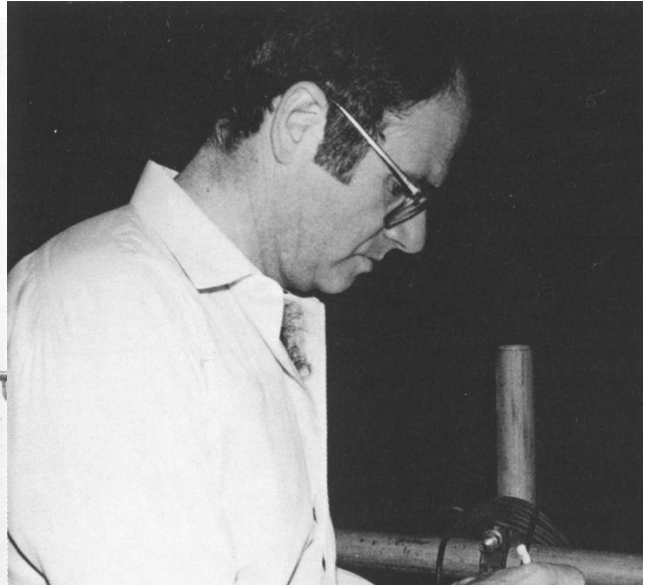
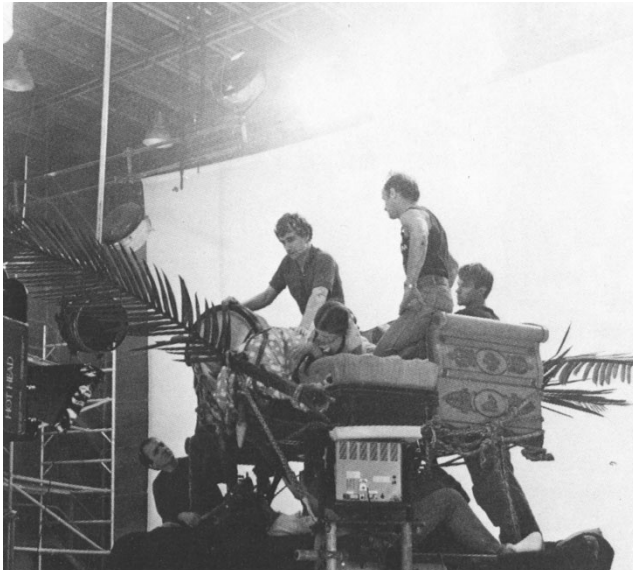
"It still surprises me that we could do it," said Maar. "But once the research had started — the designing, the making of the actual apparatus, the getting of people to try — then they needed a *character* for the Wheelers. And that's where I came into the picture. Walter knew about the kind of nutty, psychotic, extreme portrayals that I do on stage, and he said, 'That's exactly what I was thinking of for the Wheelers!'" The nutty, extreme portrayals evolved from Maar's experience as a performing mime. "As a mime, you put the whiteface on, and you have to move a certain way and tell stories and do business — but I didn't like working the street. I wanted something a little more controlled, indoors, so people would come and see me as opposed to my trying to grab them while they're going someplace else and really have no interest — when I'm just another of that army of mimes they're sick of. So I toured with a punk band for a year — doing sax, drums and vocals — and then toured with a theatre group. But I finally got tired of trying to work within groups and started doing solo work. It was during a performance of my solo show in Bolinas, near San Francisco, that I ran into Walter Murch — and here I am."

Drawing from the rich reserves of his imagination, as well as his unusual background, Maar put a lot of effort into developing the role of the Wheelers. "They're really loud and fierce looking animals that have no feet, no claws. In fact, physically, they have no way of hurting you other than to band together, wear bright,





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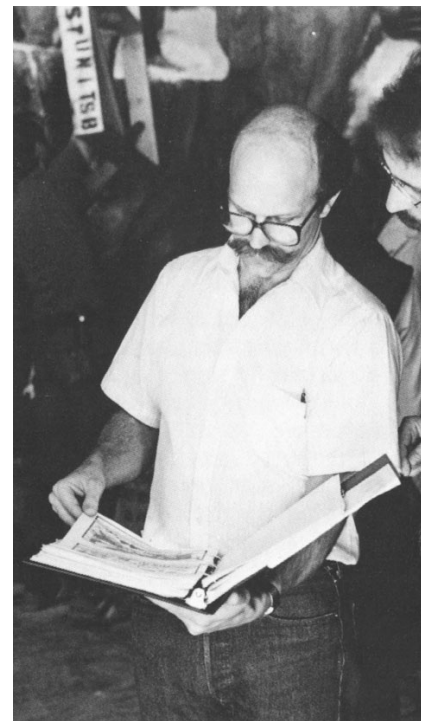


rocky snow-covered ledge below. To achieve the flying effect, Zoran Perisic was consulted as to the possible use of a miniature Gump. "I was never really very keen on that. For one thing, we were dealing with puppets already, and to make miniatures of the puppets move realistically didn't make any sense. Instead, for some of the very long shots, I filmed situations where we used the Gump as a silhouette flying across the moon, which we would then composite across an ordinary background of moon and stars.

"For the closeups and everything, the operators were lying all around the couches — underneath the couches — with all these mechanisms to make the wings move and to support and operate the puppets. It was quite a thing in itself, just trying to hide these people. The Gump head was operated by long cables, with a second version operated by radio control when the head had nothing behind it to frame out the cables — as in the scene where it comes apart and falls. Its eyes are open and its mouth opens, and there's nothing behind. That had to be radio-controlled."

Still, for the longer sequences, the necessary close-in shots of the creature and its occupants required that a choice be made — bluescreen or front projection. For Zoran Perisic, the choice seemed obvious. The optical effects expert was intimately familiar with the merits of front projection — specifically, Perisic's own patented Zoptic system. "There were some people really against the idea of front projection — mainly because they had already bought the bluescreen, and it seemed more economic for them to go with it. Obviously, I'm biased. I use bluescreen just like everyone else — there are very good reasons for using bluescreen sometimes — but you have to have pretty good reasons. Photographically, it just never, never can match front projection."

Although a more traditional bluescreen system was rigged — and tested — the method provided less than satisfactory results. The major problem arose while attempting to produce a convincing flying effect for the Gump — made particularly difficult by the requisite speed at which the Gump's palm-frond wings moved in order to create the illusion of flight. "The main requirement for bluescreen work," explained Perisic, "is that you have sharp images, because you have to pull off a very sharp traveling matte. But we did a test, and at the speed Walter liked, the wings streaked — there was a smudge as they moved through the frame. When we cut down on the shutter to get sharper images, it strobed. Also, because the flight takes place at dusk with moonlight, any kind of subtle lighting was badly affected

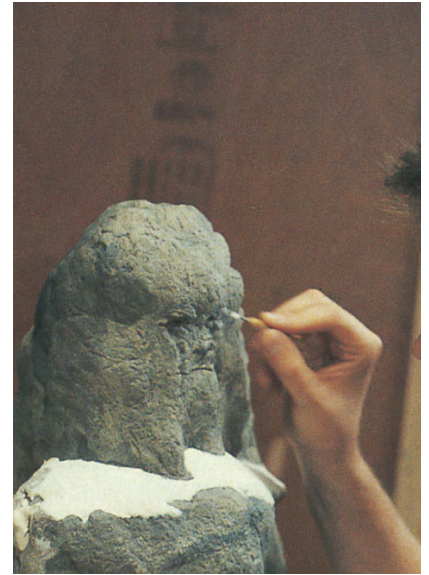


Additional versions of the Nome King were brought to life via clay animation in the studios of Will Vinton Productions. Vinton discusses storyboards for the sequence with Walter Murch. / Craig Bartlett animates the Nome spy which first spots Dorothy and her friends on the mountain ledge. / Bruce McKean animates a closeup of the Nome King's hand. / A mere suggestion of the Nome King's visage appears on the rocky cliffside as

rocky snow-covered ledge below. To achieve the flying effect, Zoran Perisic was consulted as to the possible use of a miniature Gump. "I was never really very keen on that. For one thing, we were dealing with puppets already, and to make miniatures of the puppets move realistically didn't make any sense. Instead, for some of the very long shots, I filmed situations where we used the Gump as a silhouette flying across the moon, which we would then composite across an ordinary background of moon and stars.

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BRINGING UP BABY



became the model for Baby's outer texture. Scheele also convinced the dinosaur designers that the tail actually served as a counterbalance and did not drag on the ground as commonly believed.

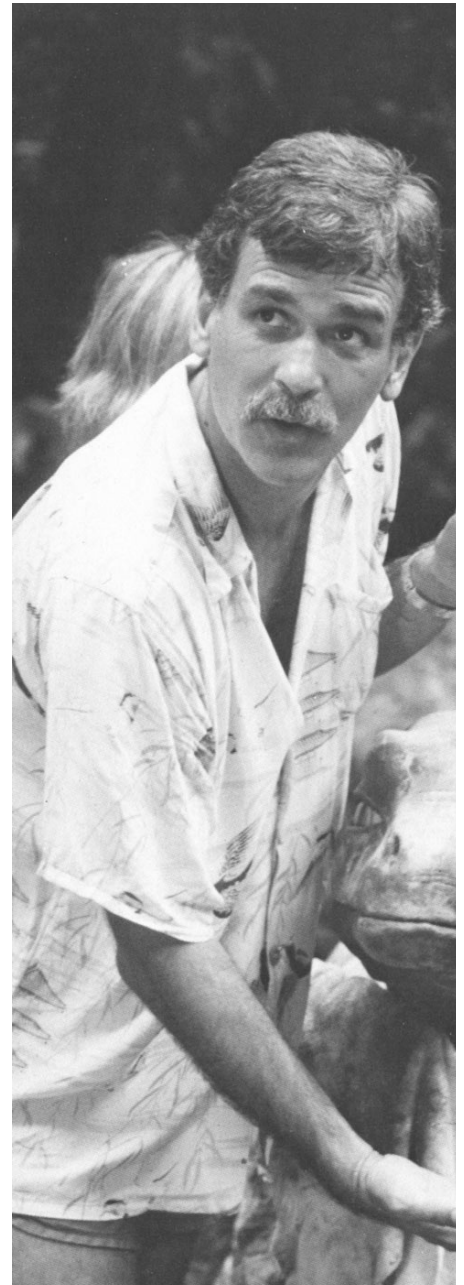
John Scheele — who had earlier explored with stop-motion expert Jim Danforth the idea of using a motion control system for mobilizing Baby — agreed that although the mechanical approach was a necessary evil, the concept was basically sound. In all, he spent three months on the project; but as things became more politically charged and compromises were made, he reluctantly left to work on *The Adventures of Buckaroo Banzai*, returning only periodically for consultation. Special effects advisor Lee Dyer also parted Baby's company around this time, shortly after the spring 1983 hiring of director B.W.L. Norton.

Although *Baby* was only Norton's third directorial challenge — following the cult classic *Cisco Pike* and *More American Graffiti* — Jonathan Taplin had been eager to work with him for some time. Both Howard Kazanjian and George Lucas had called personally to recommend him for the job; and for his part, Norton was anxious to try his hand at an effects film. The director's arrival put an end to *Baby*'s preproduction malaise, marked by a level of indecision which had already led to much wasted effort on the part of Isidoro Raponi and crew. The creature creators had been limping along with minimal information and guidance as to what the dinosaurs should look like and what would really be expected of them in the way of performance. It was a time for experimentation — but no practical designs could be implemented without a director. Stepping in with authority, Norton helped to solidify the production's scattered efforts and at the same time gave its somewhat nebulous structure his own particular focus.

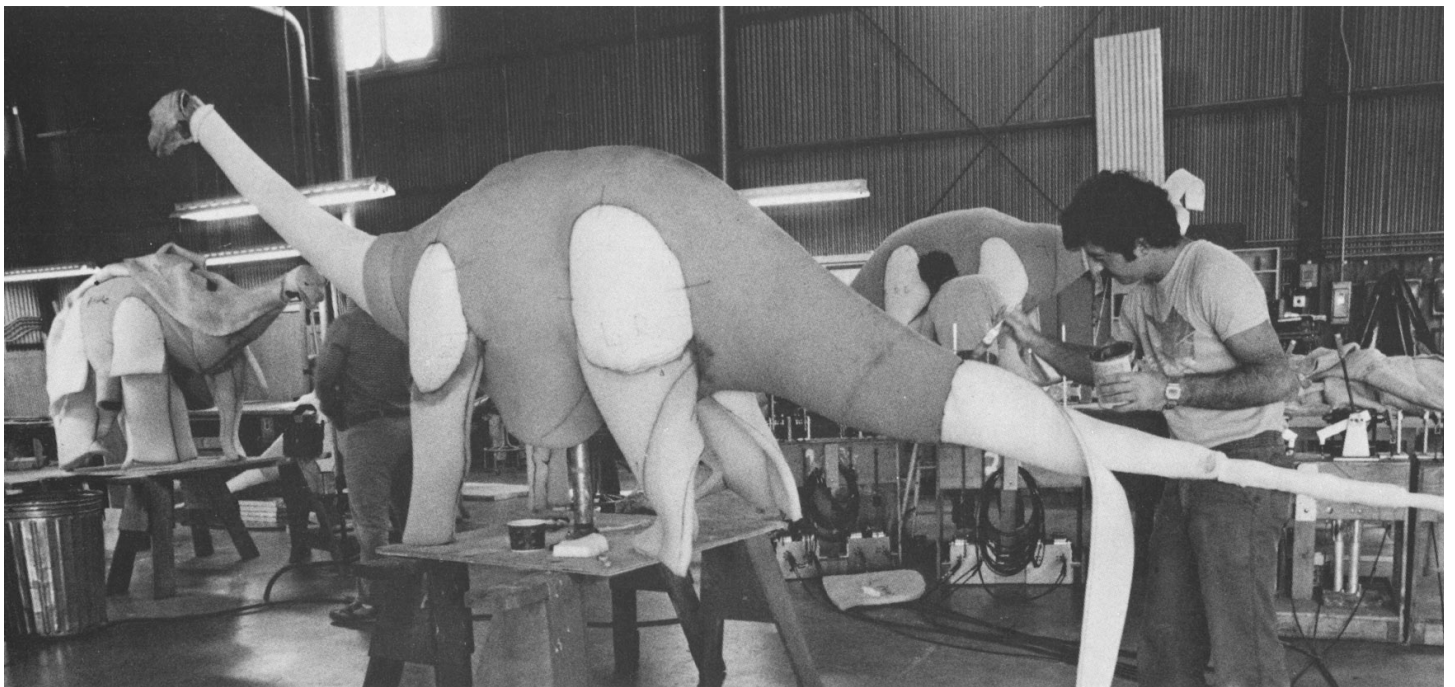
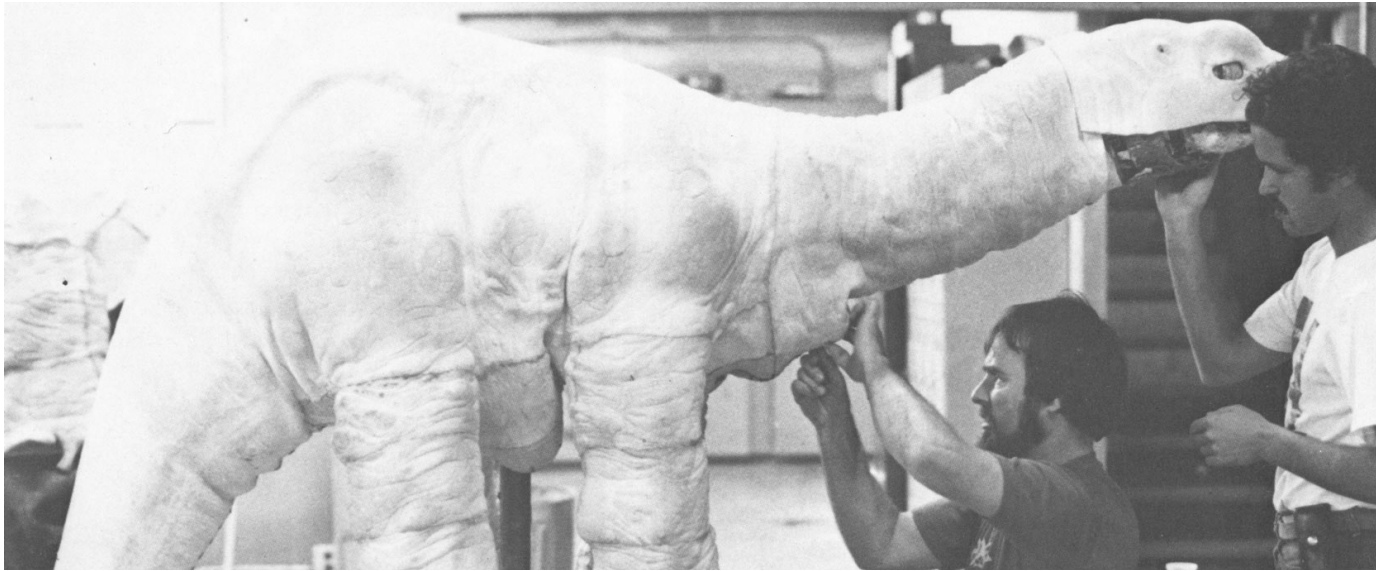
Just prior to Norton's arrival, Kagel and Raponi had completed a second miniature sculpture, reflecting the input of John and William Scheele. The revised Baby was cuter and more juvenile in its facial features, and appeared a lot less reptilian. Certain artistic liberties were taken, such as moving the nostrils from the authentic forehead location to a more familiar below-the-eyes position as it was decided that any sniffing activity would have looked silly had they been retained in the former site. Keeping these basic ideas in mind, a full-size dinosaur hatchling, approximately sixteen feet long and five feet high, was created using five tons of WED clay — a special Disney-designed water clay used for sculpting the EPCOT figures. Even though the clay was especially soft and easy to work with, the task still took eight weeks to complete. When it was finished, Norton made one of his first mandates as director — the Baby figure was too large. Raponi and his crew spent the next eight weeks scaling it down to size.

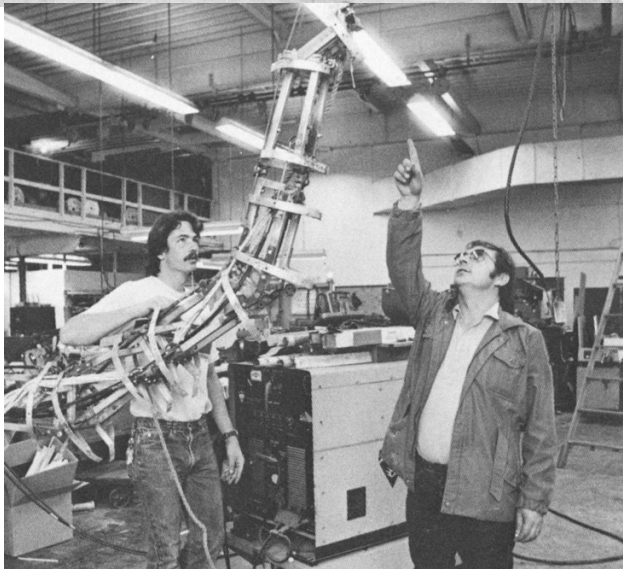
"The scale of Baby had to be reduced so that it didn't

On location in Africa, Baby director B.W.L. Norton frames a closeup on his prehistoric star. / After an unsuccessful first attempt to produce a convincing miniature prototype, paleontology consultant William Scheele was engaged to assist dinosaur creator Isidoro Raponi in developing an authentic-looking brontosaurus hatchling. In the process, Scheele produced not only a number of drawings, but also a sculpted head and neck. Though useful, certain artistic liberties were taken with his studied concepts, including the repositioning of the creature's nostrils from their actual forehead position to a more familiar and acceptable spot on the snout. / James Kagel was responsible for most of the dinosaur sculpting on the film. / After considering various alternatives, it was decided that the brontosaurus family called for in the script would be

















mented Crist, "and that our muscles were well-toned for this particular type of activity. Every maneuver Baby made stressed different muscles in different ways."

Once a heart and soul had been provided, the final step in bringing Baby to life was mechanizing the suit. Raponi and crew used an extra resin polyester skeleton as a guide to determine the location for the mechanisms, marked the places accordingly and then cut holes. The resin cutouts were used as patterns to measure the exact size for the necessary metal replacement fittings. Raponi credits Leonardo Da Vinci for influencing the simplistic design of his dinosaur mechanisms. "Da Vinci was a great teacher, and his designs are still applicable today. They were very simple and very practical — and that's what you need in the movie business. Leonardo studied nature and copied it, which is exactly what we did with the dinosaurs for *Baby*. In real life, movement is produced by muscles which are controlled by the nervous system. Our mechanism is a substitute for muscle, and the cables are substitutes for nerves. The cable-control system is a substitute for the brain. And because the film was shot in remote jungle locations, with extreme temperatures and swampy conditions, we had to rely on practical inventions like cable-controlled pulleys as opposed to high-tech devices. The basic operating mechanism consisted of a pulley, bearings and steel rods. We tried to use brass, aluminum and unoxidizable steel as much as possible because we didn't want anything that could rust. Rust causes traction, making it more likely for the device to break."

Raponi used motorcycle, bicycle and craft cables at various points, beginning with the smaller cables which were more flexible and better working. After reaching a length of between ten and fifteen feet, a junction box was installed where the smaller cables could be connected to larger ones. For cable control, Raponi's objective was to design a rig that would require the fewest possible number of operators — based on the principle that if one person could do more than one action, his coordination would be better. Normally, four or five cable operators contributed to Baby's performance — two for the neck, and either two or three for the head — depending on what movements were needed. The dinosaur's motivation was decidedly a team effort, with everyone knowing the creature's choreography well ahead of time. This was especially important for the actor inside the suit, as he or she was technically blind. Only a small radio helped to ease breakdowns in communication.

In all, Baby boasted fifteen different facial expressions — primarily involving the eyes, eyebrows, nose, lips and mouth. Raponi's crew built a total of seven heads to facilitate these various expressions. Additional mechanisms were set up to provide a chewing motion, as well as making it possible for the tongue to come out and actually lick something. A few se-

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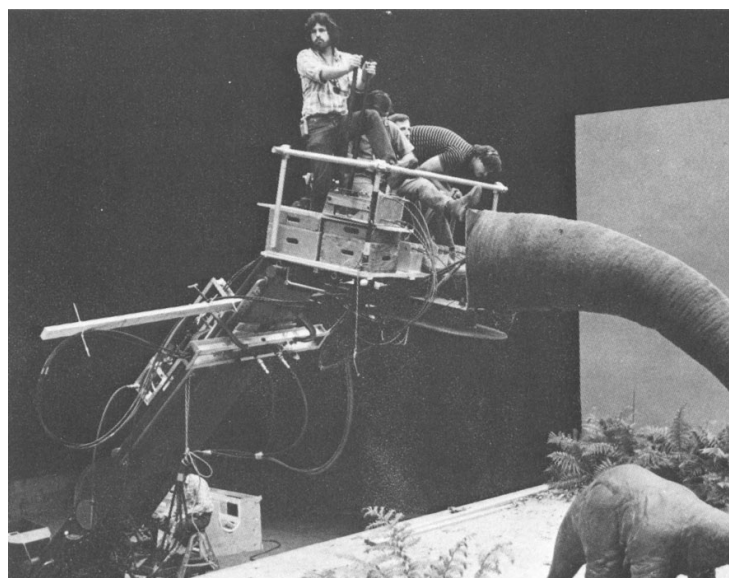
faces, it's necessary for them to turn their entire head to see left or right. You can see the life in their eyes by the little bit of white that surrounds the iris. With *Baby*, there was too much white; and we had to exaggerate movements in order to suggest that it was seeing anything at all. This extraneous action made it look ridiculous. I would have chosen a round pupil for the dinosaur."

John Scheele concurred. "The eye is the window to the soul. It can grab you, suck you in and captivate you. *Baby's* eyes were a disaster. You weren't drawn in by their appeal; and because of the artificial color, there was a problem with credibility. A more intricate eye was called for — perhaps something with a dilating pupil."

Raponi had wanted to use an optical specialist outside the studio to lend a professional touch in fabricating *Baby's* eyes; but because of the time constraints, the job had to be done in-house. And although the Disney paint department was somewhat more experienced in painting walls than producing the fine detail work necessary for lifelike eyeballs, there were no other options available. Raponi put the crew to work by first having the eyes painted on a piece of paper, and then photographed to smooth out the color and give the rendering an overall finer grain. Lastly, the finished product was placed inside transparent plastic spheres filled with transparent resin to create the suggestion of a lens.

While much of the preproduction attention had been focused on the most obvious and basic element of *Baby* — the construction of its dinosaur stars — progress was being made in other areas as well. Considerations for the visual aspects of the film had been weighed and discussed; and on the optical effects front, the fundamentals of photography were pondered at length. For Academy Award-winning cinematographer John Alcott, the choice was simple. Fresh from shooting the visually elegant *Greystoke*, the director of photography was anxious to implement his pioneered system, Supertechniscope — a widescreen, but nonanamorphic process compatible with Kodak's high-speed 5294 film as well as a wide range of Arriflex high-speed lenses. This process — which uses only about two-and-a-half perfs of the film's four-perf height — had proven a real advantage while filming in the low light levels of the African jungle, but on *Baby* was to create serious problems with the compositing of optical elements.

Special effects cinematographer Peter Anderson, who was responsible for bluescreen and optical work on the film, expressed early concerns with the Supertechniscope process, suggesting the picture be shot instead in a flat 1.85 aspect ratio with optical elements being photographed on full aperture 4-perf and reduced to conform during compositing. At one point, Anderson and assistant director Steve McEveety had even looked into the possibility of using Digital Productions' ad-









In the end, Alcott's Supertechniscope system was given the go-ahead — with the subsidiary employment of VistaVision for the effects elements, a decision which offered at least some compromise to the optical production dilemma.

Production staffers immediately went to work lining up the only two high-speed VistaVision cameras available — capable of filming up to 72 frames per second — and prepping them for location work. A third, Disney-owned 30-frame-per-second VistaVision camera was also readied. Although the variable high-speed capacity of the venerable equipment was required in order to give *Baby's* miniatures the illusion of weight and size, some modification was needed. The out-of-date 1953/1954 rigs arrived on the lot sporting poorly mismatched sets of mounts and lenses which were inferior to contemporary optics, and had to be converted to accept more appropriate Nikon issue — thus eliminating any ensuing resolution problems. Anderson and Phil Meador, head of Disney's special photographic effects department, were also concerned about using the Kodak 5294 film for optics. Much testing was done, and although it was found that this stock was excellent for low light level filming, it was not at all appropriate for bluescreen. The high-speed film simply did not lend itself to making quality separations, and so the slower 5247 stock was consequently selected for all bluescreen foreground plate photography.

While preproduction wrinkles were frantically being ironed out, preparations were underway to relocate the *Baby* entourage in the African rain forest — a major production in itself, and one marked by a few real-life script changes. One noteworthy alteration was the last-minute announcement by Tom Wilhite that he was leaving the Disney organization to enter independent production. Richard Berger replaced him as *Baby's* executive producer just as the final provisions for location shooting were being made. Another example of the best laid plans of mice, men and dinosaurs going awry was the surprise cancellation of Peter Anderson's location participation. The effects specialist had planned to join the crew several weeks into principal photography with the intention of shooting the essential optical scenes. But less than forty hours before Anderson and his assistant, Richard Mosier, were to depart for location, plans were changed. The optics would now be photographed back at the studio, but the miniatures, plates and composite planning would still be done in Africa. With no optical specialist on site, John Jensen and VistaVision technician John Godden were tasked with filling in as best they could.

By mid-November, Izzy Raponi and his five-person team had arrived in Abidjan, the Ivory Coast's capital city. A 'dino base' was readied for them in a hangar at the local airport, and the crew began setting up the shop where much of the film's dinosaur construction would be completed. It was soon apparent, however, that the efforts of the American craftsmen were

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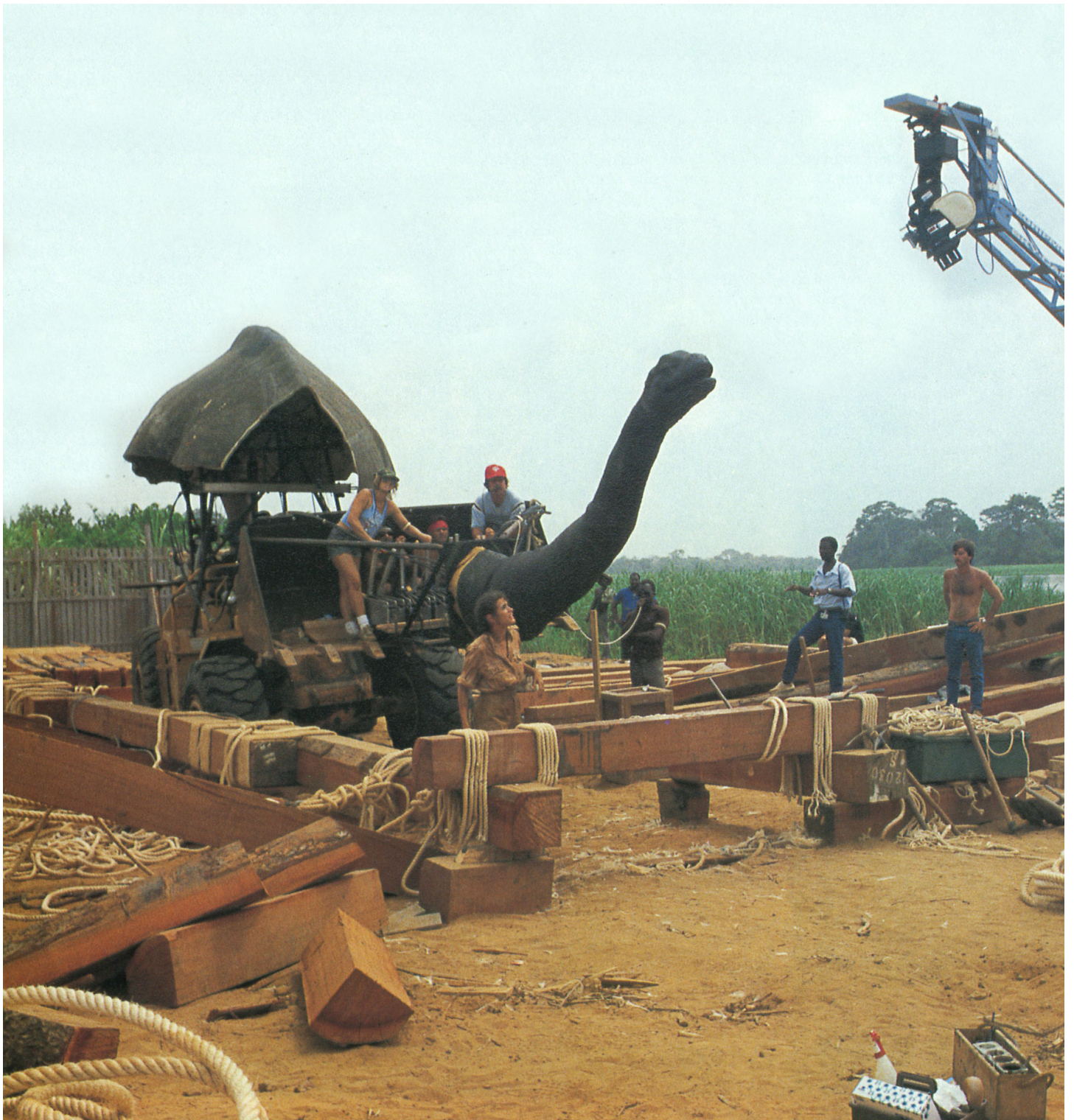












As an element for the climactic Destruction Village sequence, footage of Baby's rampaging mother was shot against a blue screen for later compositing. / Assistant director Steve McEveety urges the costumed 'dino person' on through the streets of the miniature village. The Paul Huston set — replicated with assistance from Disney prop shop manager Bob Spetter — was a detailed replica of the full-size village constructed on location in Africa. / Recumbent cameraman Jamie Anderson — skillfully maneuvered by grips — refers to a video monitor in order to operate the modified upside-down VistaVision rig mounted beneath him. As with most of the scenes featuring the miniature dinosaurs, the sequence was shot at sixty frames per second to create the illusion of scale and weight. / The truck in which Kiviat unsuccessfully tries to get away with the priceless brontosaurus hatchling was affixed to a rocking platform and photographed against a blue screen. / Miniature background plates of the enraged — and rapidly

Year's Eves.

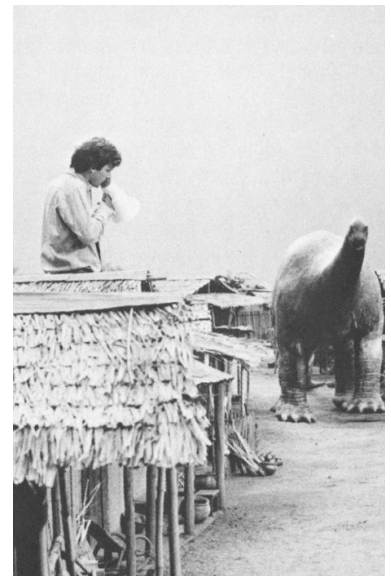
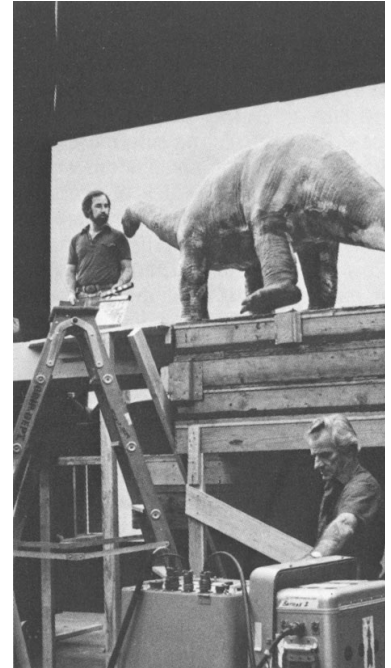
For the performers inside the dinosaur suit, the water scenes made an already taxing situation even more of a challenge. "Walking in water was extremely difficult," recalled Crist. "Besides the suction factor, each of the feet would fill up and weigh about fifty pounds. With the weight of the costume itself, that added up to about 250 pounds. The water would come up to our elbows sometimes, and the mud and silt would collect in the bottom of the feet. And then the director would say, 'Go faster!' On top of all that, the soggy costume smelled just awful." Crew members stood by with blow dryers to ready the wet suits for future scenes.

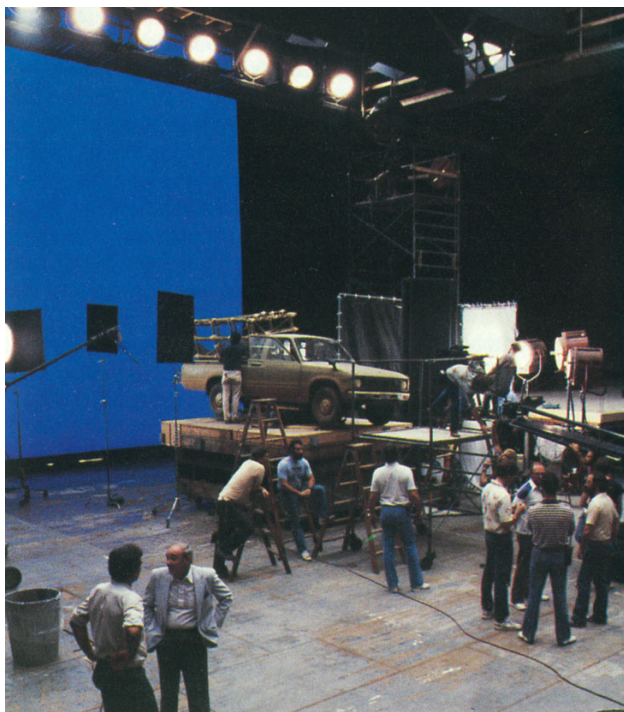
For the land sequences, it was decided that Baby needed an application of mud to take the shine off her latex skin. "For a while," said Norton, "we just threw mud on her in every scene. Then we discovered that the mud ended up photographing white and looked bad. Unfortunately, we didn't actually discover this for a couple of weeks because the film was being sent off to London for processing and the dailies took that long to reach us. We had to reshoot some of the footage. The rest we covered up with a continuity scene where Baby jumps in a mudpile."

By late December, VistaVision technician John Godden arrived on location to assist in photographing the background plates essential to postproduction opticals. But because of the massive confusion and the absence of an optical supervisor, Godden spent five weeks on location and the vintage high-speed cameras — so carefully prepared by Peter Anderson — were never used. Instead the slower, 30-frame-per-second production VistaVision camera was put into service towards the end of the African stay.

First unit photography was completed by February 1984, and a grateful crew bid adieu to the Ivory Coast and its assortment of snakes, scorpions and other insects, exotic illnesses and weather problems. Second unit director and cinematographer Egil Woxholt — a veteran of several James Bond films and the underwater photographer on *Das Boot* — remained behind to shoot additional scenes with Baby, as well as plates for compositing. Paul Huston had left for home several weeks earlier to begin preparing the miniature sets back at the Disney Studios.

In Los Angeles, plans were underway to photograph the miniatures outdoors in order to simulate the African lighting ambience. However, no suitable unobstructed views resembling the Ivorian landscape could be found, so Huston had to resort to building his miniature sets on soundstages. The first order of business was to construct a convincing replica of the large primeval Dinosaur Lake — a set giving Huston quite a bit of leeway since most of the action in Africa was shot from the beach looking out to the lake, while the majority of the miniature set action featured the beach and shore which were never









previously worked in. The one-quarter scale was really great to work with. For one thing, live plants. We began by creating a fictitious beach which resembled the original in that the trees on the beach was really tough; but we took certain liberties. We found some gnarled trees with a similar look and the right scale and, by assembling the full one-quarter scale set, we achieved their weird roots and trunks. Our greens did a terrific job matching the indigenous jungle miniature."

The next construct to rise from the set was the likeness of Destruction Village. Disney's Bob Spetter, lent enormous assistance in the construction of the village originally constructed in the Ivory Coast set for Destruction Village," continuing to closely reproducing an entire street with its buildings. The breakaway huts were made of Tyrocell — with mud-covered reed backings to give the wetness of the mud in order to get the amount of cracking we needed. The houses were made of plywood, with bundles of wire strands and then stapled on."

The Destruction Village sequence was the dinosaur's best optical moments — a camera rig devised by Peter Anderson effectively film the difficult scene. "We had never done before," said Anderson, "we used a speed VistaVision camera and turned it upside down. The VistaVision camera with its slipfriction/fluid head — is about nineteen inches where it bolts on, up to the lens. The camera was shooting the village where, in scale, you were above the ground — simulating Sean Young on the back of a motorcycle. A trench would have turned the camera upside down. By inventing a device, we had to deal only with the space above two-and-a-half to three inches. With optical effects that we were shooting upside down since the camera was upside down during the compositing. In the thirty-year history of film, no one had any remembrance of running a camera particularly at high-speed."

A special device, built by Doc Reed, and Jamie Anderson to lie flat with the camera. The Grips carefully maneuvered the ponderous camera not bang into the small buildings, always making sure the camera maintained the requisite sightlines. This sequence — like most of the scenes — was shot at sixty frames per second to give it scale and substance.



